A Comparison of Doramectin and Ivermectin/Clorsulon for the Control of Gastrointestinal Nematodes and Weight Gains in Stocker Cattle

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Abstract

A 140-day grazing study (December 20, 1995-May 8, 1996) was conducted in Louisiana to compare the efficacy of doramectin (Dectomax®) injectable solution and ivermectin/clorsulon (Ivomec Plus®) injectable solution when administered to stocker beef cattle with naturally acquired nematode infections and grazing on liver fluke contaminated pastures. Calves in a third treatment group served as non-medicated controls. Sixty crossbred steers with body weights ranging from 354 to 497 lb were randomly allocated to the three treatment groups and twelve study pastures (4 replicates/treatment). On Day 0, calves were treated subcutaneously in the neck with either doramectin injectable solution at a dose of 200 μg/kg body weight or ivermectin/clorsulon injectable solution at a dose of 200 μg/kg and 2.0 mg/kg body weight. Fecal samples for determining nematode egg counts per gram of feces (EPG) and *Fasciola hepatica* egg counts were collected at appropriate intervals during the study. Calf body weights were recorded at 28-day intervals. Geometric mean nematode egg counts in the non-medicated group remained above 100 or 200 EPG through Day 56 and then decreased to less than 100 EPG. Treatment with doramectin or ivermectin/clorsulon resulted in a significant ($P < 0.05$) reduction in post-treatment nematode egg counts through Day 56 compared to the non-medicated controls. Doramectin-treated animals demonstrated significantly ($P < 0.05$) reduced nematode egg counts on Days 14 through 56 compared to ivermectin/clorsulon-treated animals. The prevalence of positive fluke egg counts across treatments increased from Day 84 to Day 140. There were no differences ($P > 0.05$) among the three treatment groups in the percentage of fecal samples with *F. hepatica* eggs during the study. Average daily gains were 1.36, 1.74, and 1.56 lb for the non-medicated, doramectin, and ivermectin treatment groups, respectively. The two treated groups exhibited significantly ($P < 0.05$) greater average daily gains compared to the non-medicated group. Calves treated with doramectin demonstrated significantly ($P < 0.05$) greater average daily gains than the ivermectin/clorsulon-treated calves. In summary, beef calves that grazed on nematode and fluke contaminated pastures and were treated with either doramectin or ivermectin/clorsulon injectable solutions had substantially reduced nematode egg output over the grazing period and, therefore, potential pasture contamination. Treatment with doramectin reduced potential pasture contamination and improved calf weight gains to a greater extent than treatment with ivermectin/clorsulon.